Title (en)

GLYCOSYLTRANSFERASES FOR BIOSYNTHESIS OF OLIGOSACCHARIDES, AND GENES ENCODING THEM

Title (de)

GLYCOSYLTRANSFERASEN FÜR DIE BIOSYNTHESE VON OLIGOSACCHARIDEN UND DAFÜR KODIERENDE GENE

Title (fr)

GLYCOSYLTRANSFERASES UTILISEES DANS LA BIOSYNTHESE D'OLIGOSACCHARIDES, ET GENES CODANT CES GLYCOSYLTRANSFERASES

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Application

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Priority

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Abstract (en)

[origin: EP1568777A1] The present invention is directed to nucleic acids encoding glycosyltransferases, the proteins encoded thereby, and to methods for synthesizing oligosaccharides using the glycosyltransferases of the invention. In a specific embodiment, a glycosyltransferase locus of Neisseria gonnorhoeae containing five open reading frames for five different glycosyltransferases. The functionally active glycosyltransferases of the invention are characterized by catalyzing reactions such as adding Gal beta 1->4 to GlcNAc or G1c; adding Ga1Nac or G1cNAc beta 1->3 to Ga1; and adding Ga1 alpha 1->4 to Ga1. The glycosyltransferases of the invention are particularly suited to the syntheses of the oligosaccharides Ga1 beta 1 4G1cNAc beta 1->3Ga1 beta 1->4G1c (a mimic of lacto-N-neotetraose), Ga1NAc beta 1->3Ga1 beta 1->4G1cNAc beta 1->3Ga1 beta 1->4G1c beta 1->4 (a mimic ganglioside), and Ga1 alpha 1->4Ga1 beta 1->4G1c beta 1->4Hep->R (a mimic of the saccharide portion of globoglycolipids).

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